APPENDIX F
VISUAL RESOURCES IMPACT ANALYSES

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AGENCY COORDINATING

FINAL

VISUAL RESOURCE ASSESSMENT
FOR THE SALINE VALLEY RADAR FACILITY PROJECT
SALINE VALLEY, CALIFORNIA

October 2002

AIR FORCE FLIGHT TEST CENTER
ENVIRONMENTAL MANAGEMENT
EDWARDS AFB CA 93524

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Section – INTRODUCTION

Introduction

This Visual Resource Assessment has been prepared to address visual impacts associated with the proposed location of one Beacon Radar facility and one associated Microwave Repeater in Saline Valley, California.

Overview of the Project Setting

All lands within the study area lie within Saline Valley and are owned either by the National Park Service (NPS) or by the Bureau of Land Management (BLM). Most of the land in Saline Valley falls within the boundaries of Death Valley National Park.

The Saline Valley is remote, and its visual appearance is chiefly characterized by the varied topography typical of the basin and range physiographic province that comprises this portion of California and neighboring Nevada. Typical of arid regions, vegetation is sparse, and the dominant visual elements are a rocky desert floor surrounded by towering mountains under a crystal blue sky.

Pedestrian and vehicular traffic in Saline Valley is very sparse, particularly during the hot summer months. During cooler seasons, vehicular traffic increases, but even at peak times is estimated at on average less than one vehicle passing a particular point every five minutes. On the east side of the valley, the Saline Valley Warm Springs camp is active, but is located approximately 6 1/2 miles away from the closest alternative radar site, Keyes Canyon North.

Eight proposed build sites have been identified and evaluated, along with a "no-build" alternative. Three of the proposed build sites are located on NPS land, while the remaining five proposed build sites are located on BLM land. Of the eight "build" sites, five are candidate sites for the Beacon Radar facility, while three are candidate sites for the associated Microwave Repeater facility.

Exhibit 1: Site Analysis Map indicates the location of the eight proposed build sites. The proposed build sites are all located along the western edge of Saline Valley, which generally forms the extreme northwestern edge of Death Valley National Park. All eight proposed build sites are in proximity to Saline Valley Road, and Saline Valley Road is the primary point of view for all eight sites. The Study Area of this Visual Assessment, therefore, is comprised of the Saline Valley Road viewshed.

According to BLM map "BLM Special Edition 1999, Surface Management Status, Desert Access Guide, California Desert District, Saline Valley," the vast majority of land within the study area has been designated as wilderness by Congress. There are, however, "pockets" and "fingers" of non-wilderness land throughout the study area. All of the alternative sites are located in these "pockets" and "fingers". None of the proposed build sites are located within a designated wilderness area.

Visual Appearance of the Proposed Project

The Saline Valley Radar Facility Project proposes to construct one Beacon Radar facility and one Microwave Repeater. Prototypes for these facilities are shown in ***Exhibit 2: Conceptual Elevation – Beacon Radar, Exhibit 3: Conceptual Site Plan – Beacon Radar*** and ***Exhibit 4: Photograph of Repeater Alternative***.

The Radar Facility Project will be powered by solar technology and will not require power lines from remote locations.

Visual Resource Analysis Methodology

The Visual Resource Assessment evaluation criteria for the eight potential build sites and a "no-build" alternative comes from the following sources:

- Death Valley National Park Management Plan
- California Desert Conservation Area Plan

- BLM Visual Resource Management Program – Manual H-8410-1 – Visual Resource Inventory

The following describes visual resource policies and criteria from each of these documents as applicable to a Visual Resource Assessment:

The **Death Valley National Park Management Plan** guides the use of land within Death Valley National Park (DNVP). The "Viewsheds" section of the DNVP Management Plan refers to the use of antennas and relay equipment within the park by stating that the overall goal "will be to protect and maintain the visual quality of the landscape and the built environment". The Management Plan goes on to state that the "Park will implement the following objectives for communications equipment proposals:

- All above-ground communication equipment should not significantly distract from the visual quality of the scenery. ("Visual Quality of Scenery" in Visual Resource Assessment section evaluation).

- Each new proposal for radio or cellular antennas or towers must demonstrate that the equipment will provide a critical service for visitors and NPS staff and is not duplicative. ("Critical Service" in Visual Resource Assessment section evaluation).

- The installation of new equipment outside the Park or on existing communication towers or at defined sites should be considered before the construction of new sites in Park is considered. ("Sites Outside the Park" in Visual Resource Assessment section evaluation).

- New locations will be reviewed through the environmental assessment process, which must consider impacts on the visual quality of the scenery".

The **California Desert Conservation Area Plan** (CDCAP) guides the use of BLM land in the subject area. The CDCAP defines a series of Multiple Use Classes for all BLM lands and identifies allowable uses in each class. BLM lands in the subject area fall within BLM Multiple Use Class L (Limited Use). Regarding "Communication Sites", the CDCAP Multiple Use Class L states "New communication sites may be allowed in designated areas" and requires an Environmental Assessment. ("Designated Areas" in Visual Resource Assessment section evaluation).

In addition, the BLM Field Office, Ridgecrest, California, as part of the proposed project's early consultation effort, determined that all four Beacon Radar alternative sites located on BLM land are consistent with the multi-use designations and are in conformity with the BLM Management Plan for this area.

The **BLM Visual Resource Management** (VRM) program has established a system of Visual Resource Classes ranging from Class I to Class IV. National wilderness areas are assigned to Class I, which has a primary objective "to preserve the existing character of the landscape". While none of the alternative sites are located directly within wilderness areas, they are all in relatively close proximity to wilderness area boundaries.

Given this close proximity to Class I areas, this Visual Assessment has assumed that all eight of the alternative sites are located on VRM Class II lands. BLM Manual H-8410-1 – Visual Resource Inventory identifies the objective for Class II lands as follows:

- Class II Objective: The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. ("Low Level of Change", "Not Attract Attention of Casual Observer" and "Repeat Basic Elements" in Visual Resource Assessment section evaluation).

Visual Resource Assessment Overview

The next section, Visual Resource Assessment, contains the following for each of the proposed build sites:

- Existing conditions related to assessing visual characteristics.

- Evaluation against the DVNP, CDCAP and VRM criteria defined above.

- Recommended colors, textures and finishes for proposed facilities.

In addition, a photo montage is provided for each proposed build site to graphically illustrate proposed visual character. The objective of each photo montage is to provide a reasonably accurate graphic representation of proposed actions consistent with expectations of an Environmental Assessment level of study.

The proposed build sites were located in the field using a handheld GPS unit. Site photographs were taken from points of view on Saline Valley Road proximate to each alternative site. Graphic representations of the proposed Beacon Radar and Microwave Repeater facilities were then inserted to the site photographs as shown in the photo montage to illustrate general visual character.

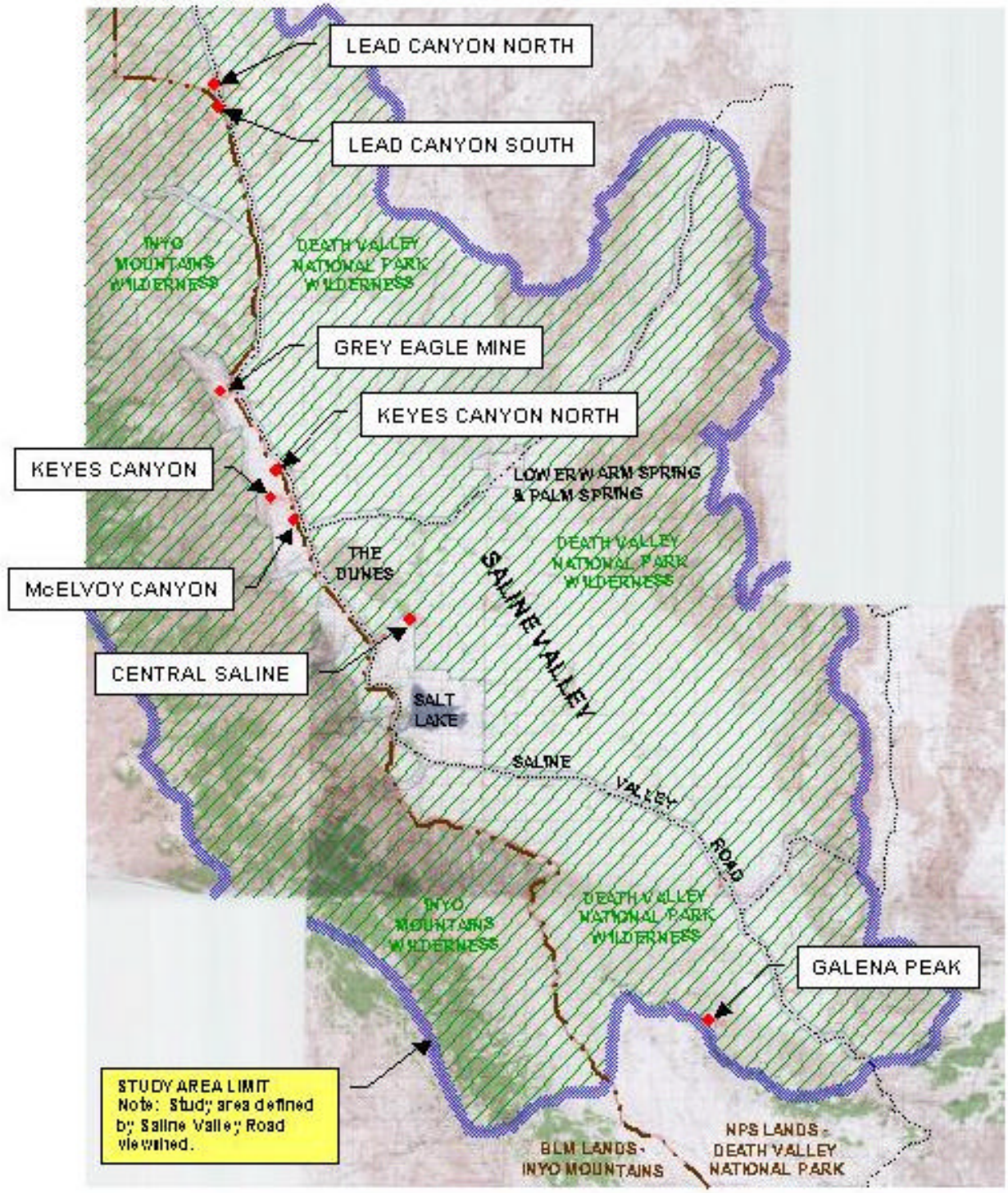

Exhibit 1 – Site Analysis Map

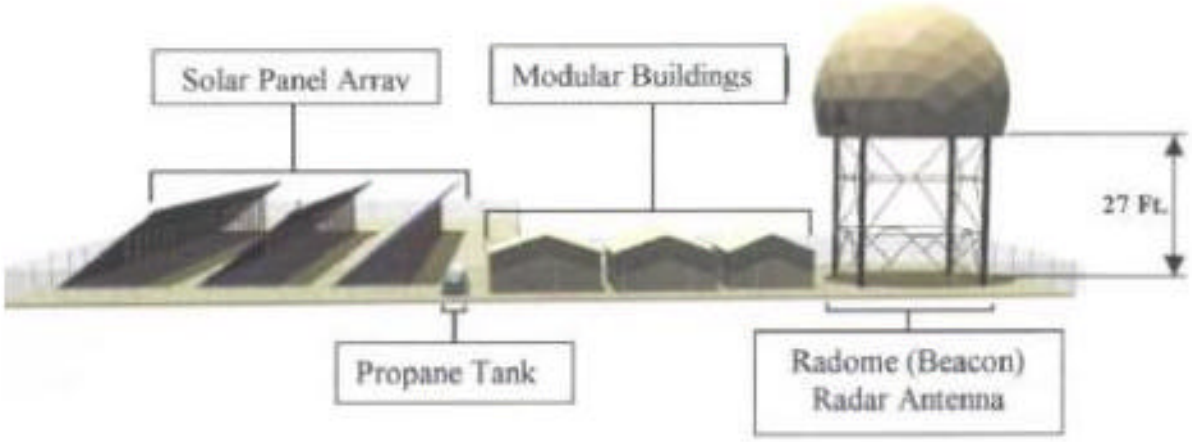

Exhibit 2 – Conceptual Elevation – Beacon Radar

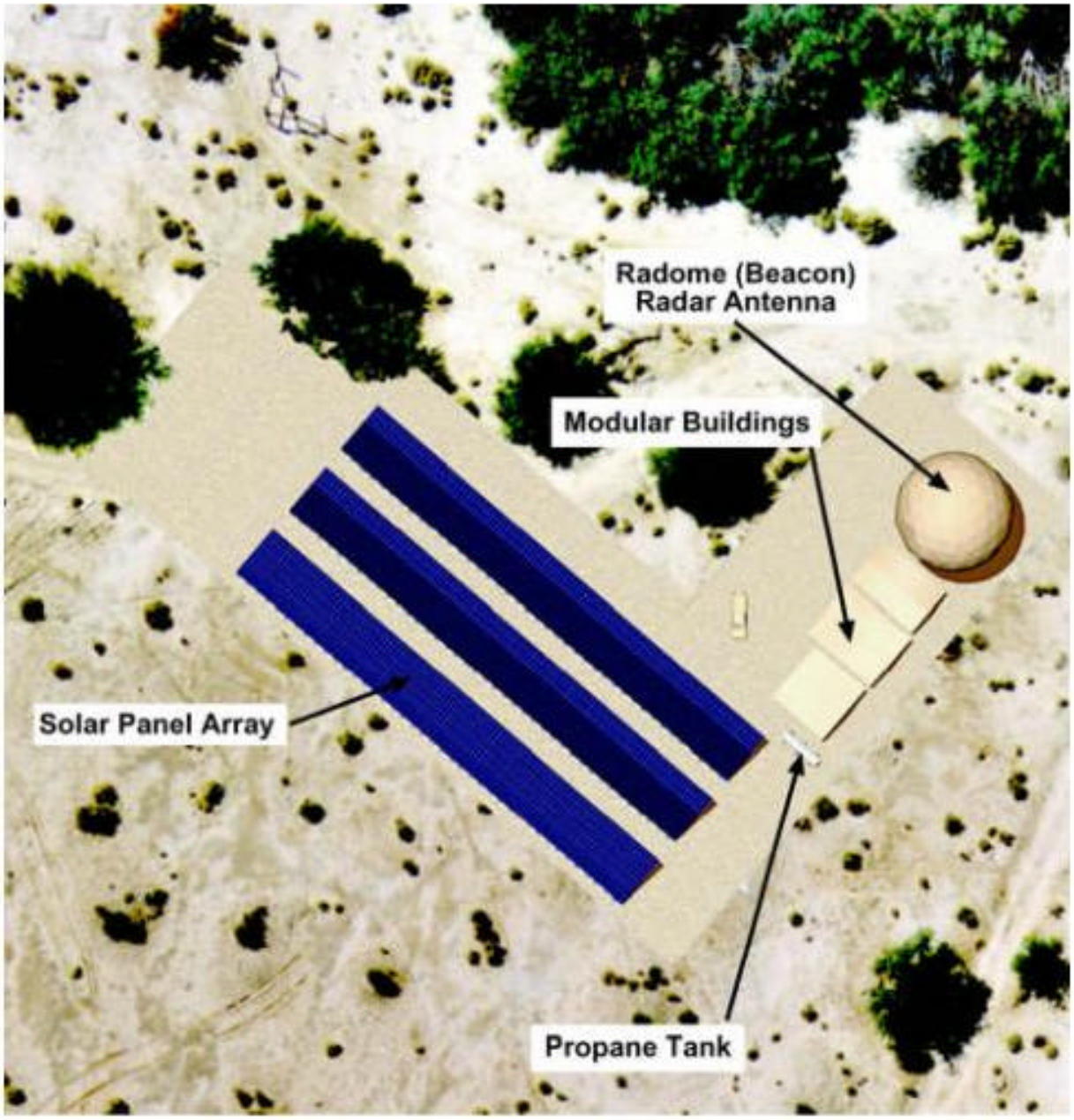

Exhibit 3 – Conceptual Site Plan – Beacon Radar

Exhibit 4 – Photograph of Typical Repeater

Section - VISUAL RESOURCE ASSESSMENT

Beacon Radar Alternative A (Central Saline) - NPS

Existing Conditions

- Location: Central location along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: National Park Service
- Distance to Designated Wilderness: Immediately adjacent.
- Distance from Saline Valley Road: Approximately 1.25 miles east of Saline Valley Road.
- Setting: Flat mid-valley floor, green mesquite edge of dunes transitioning to arid desert vegetation.
- Potential for Visual Absorption: Good, due to distance from road and variety of existing colors and textures.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Beacon Radar Alternative A (Central Saline) - NPS be selected to match the existing setting. Coupled with distance from Saline Valley Road and the Salt Lake and screening effects of existing vegetation on views from Saline Valley Road and The Dunes, the proposed Beacon Radar facility will not significantly detract from the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP; however, Alternative A is located in DVNP. Moderate impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. Coupled with distance from Saline Valley Road and the Salt Lake and screening effects of existing vegetation on views from Saline Valley Road and The Dunes, the proposed Beacon Radar facility will present a low level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting coupled with distance and screening factors will minimize visibility to the casual observer.
- Repeat Basic Elements: The dome shape and angularity of building and solar panel array repeat dominant forms and lines in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Minor impact due distance from road.

Recommended Colors, Textures & Finishes

- Color: Green/brown camouflage pattern to match mesquite/vegetation color and texture as viewed from road.
- Texture: Medium texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 5: Photo Montage – Beacon Radar Alternative A (Central Saline) – NPS***.

Exhibit 5
Site Photo/Photo Montage– Beacon Radar Alternative A (Central Saline) – NPS
View from Saline Valley Road

Beacon Radar Alternative B (McElvoy Canyon) - BLM

Existing Conditions

- Location: North–central location along west portion of valley (See Exhibit 1 – Site Analysis Map).
- Land Ownership: Bureau of Land Management
- Distance to Designated Wilderness: Approximately 3,300 feet.
- Distance from Saline Valley Road: Approximately 500 feet west of Saline Valley Road.
- Setting: Flat valley floor, arid desert vegetation, mountainous backdrop.
- Potential for Visual Absorption: Poor, due to proximity to road and fine-textured setting.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Beacon Radar facility will have only a moderate impact on the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP. Alternative B is not located in DVNP. Minor impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Beacon Radar facility will present a moderate level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting will provide a moderate visibility to the casual observer.
- Repeat Basic Elements: The dome shape and angularity of building and solar panel array repeat dominant forms and lines in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Moderate impact due to proximity to road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match mountains color and texture as viewed from road.
- Texture: Medium-to-coarse texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 6: Photo Montage – Beacon Radar Alternative B (McElvoy Canyon) – BLM***.

Exhibit 6
Site Photo/Photo Montage – Beacon Radar Alternative B
(McElvoy Canyon) – BLM
View from Saline Valley Road

Beacon Radar Alternative C (Grey Eagle Mine) - BLM

Existing Conditions

- Location: North-central location along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: Bureau of Land Management
- Distance to Designated Wilderness: Approximately 2,000 feet.
- Distance from Saline Valley Road: Approximately 0.4 miles west of Saline Valley Road.
- Setting: Edge of valley at base of mountains, slightly rolling topography, arid desert vegetation.
- Potential for Visual Absorption: Fair, due to distance from road.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Colors, reflectivity and textures of materials will be selected to match the existing setting. Due to the distance from Saline Valley Road, the proposed Beacon Radar facility will not significantly distract from the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the proposed alternative "build" sites are not located within DVNP. Alternative C is not located in DVNP. Minor impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. Due to the distance from Saline Valley Road, the proposed Beacon Radar facility will present a low level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting will provide a minor visibility to the casual observer.
- Repeat Basic Elements: The dome shape and angularity of building and solar panel array repeat dominant forms and lines in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Minor impact due distance from road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match valley floor color and texture as viewed from road.
- Texture: Fine-to-medium texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 7: Photo Montage – Beacon Radar Alternative C (Grey Eagle Mine) – BLM***.

Exhibit 7
Site Photo/Photo Montage – Beacon Radar Alternative C
(Grey Eagle Mine) – BLM
View from Saline Valley Road

Beacon Radar Alternative D (Keyes Canyon) - BLM

Existing Conditions

- Location: North-central location along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: Bureau of Land Management
- Distance to Designated Wilderness: Approximately 2,000 feet.
- Distance from Saline Valley Road: Approximately 0.7 miles west of Saline Valley Road.
- Setting: Near edge of valley and base of mountains, slightly rolling topography, arid desert vegetation.
- Potential for Visual Absorption: Good, due to distance from road and variety of existing textures.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Colors, reflectivity and textures of materials will be selected to match the existing setting. Due to the distance from Saline Valley Road, the proposed Beacon Radar facility will not significantly distract from the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP. Alternative D is not located in DVNP. Minor impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. Due to the distance from Saline Valley Road, the proposed Beacon Radar facility will present a low level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting will provide a minor visibility to the casual observer.
- Repeat Basic Elements: The dome shape and angularity of building and solar panel array repeat dominant forms and lines in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Minor impact due distance from road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match mountains color and texture as viewed from road.
- Texture: Medium-to-coarse texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 8: Photo Montage – Beacon Radar Alternative D (Keyes Canyon) – BLM***.

Exhibit 8
Site Photo/Photo Montage – Beacon Radar Alternative D
(Keyes Canyon) – BLM
View from Saline Valley Road

Beacon Radar Alternative E (Keyes Canyon North) - BLM

Existing Conditions

- Location: North-central location along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: Bureau of Land Management
- Distance to Designated Wilderness: Approximately 5,000 feet.
- Distance from Saline Valley Road: Approximately 750 feet west of Saline Valley Road.
- Setting: Flat mid-valley floor, rocky landscape, arid desert vegetation, mountainous backdrop.
- Potential for Visual Absorption: Fair. Closeness to road is negative, coarse textures offer opportunity.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Beacon Radar facility will have only a moderate impact on the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP. Alternative E is not located in DVNP. Minor impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Beacon Radar facility will present a moderate level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting will provide a moderate visibility to the casual observer.
- Repeat Basic Elements: The dome shape and angularity of building and solar panel array repeat dominant forms and lines in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Moderate impact due closeness to road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match mountains color and texture as viewed from road.
- Texture: Fine-to-medium texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 9: Photo Montage – Beacon Radar Alternative E (Keyes Canyon North) – BLM***.

Exhibit 9
Site Photo/Photo Montage – Beacon Radar Alternative E
(Keyes Canyon North) – BLM
View from Saline Valley Road

Microwave Repeater Site Option – Lead Canyon South - BLM

Existing Conditions

- Location: North location along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: Bureau of Land Management
- Distance to Designated Wilderness: Immediately adjacent.
- Distance from Saline Valley Road: Approximately 50–100 feet west of the centerline of Saline Valley Road.
- Setting: Rolling, rocky northern valley plateau, arid desert vegetation.
- Potential for Visual Absorption: Fair. Closeness to road a negative, small Repeater mass offers opportunities.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Microwave Repeater facility will have only a moderate impact on the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP. Lead Canyon South Option is not located in DVNP. Minor impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Microwave Repeater facility will present a moderate level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting will provide a moderate visibility to the casual observer.
- Repeat Basic Elements: The angular nature of the tower structure repeats the angular forms found in the surrounding mountains and desert. In addition, the vertical lines of the tower repeat the apparent vertical line of Saline Valley Road as it vanishes into the distance. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Moderate impact due closeness to road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match mountains color and texture as viewed from road.
- Texture: Fine texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 10: Photo Montage – Microwave Repeater Site Option – Lead Canyon South – BLM***.

Exhibit 10
Site Photo/Photo Montage – Microwave Repeater Site Option
Lead Canyon South – BLM
View from Saline Valley Road

Microwave Repeater Site Option – Lead Canyon North - NPS

Existing Conditions

- Location: North location along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: National Park Service
- Distance to Designated Wilderness: Immediately adjacent.
- Distance from Saline Valley Road: Approximately 25-50 feet west of the centerline of Saline Valley Road.
- Setting: Rolling, rocky northern valley plateau, arid desert vegetation.
- Potential for Visual Absorption: Fair. Closeness to road a negative, small Repeater mass offers opportunities.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Microwave Repeater facility will have only a moderate impact on the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP. However, Lead Canyon North Option is located in DVNP. Moderate impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Microwave Repeater facility will present a moderate level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: The concept of selecting materials compatible with the setting will provide a moderate visibility to the casual observer.
- Repeat Basic Elements: The angular nature of the tower structure repeats the angular forms found in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Moderate impact due closeness to road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match mountains color and texture as viewed from road.
- Texture: Fine texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 11: Photo Montage – Microwave Repeater Site Option – Lead Canyon North - NPS***.

Exhibit 11
Site Photo/Photo Montage – Microwave Repeater Site Option
Lead Canyon North – NPS
View from Saline Valley Road

Microwave Repeater Site Option – Galena Peak - NPS

Existing Conditions

- Location: South location in hills along west valley edge (See Exhibit 1 – Site Analysis Map).
- Land Ownership: National Park Service
- Distance to Designated Wilderness: Immediately adjacent.
- Distance from Saline Valley Road: Approximately 2.15 miles west of Saline Valley Road.
- Setting: In south valley hills.
- Potential for Visual Absorption: Very good, due to distance from road, screened location and variety of existing textures.

Evaluation - Death Valley National Park Management Plan:

- Visual Quality of Scenery: The location of this site up in the hills is largely concealed from view from the valley floor. Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Microwave Repeater facility will not detract from the visual quality of the scenery.
- Critical Service: By providing greater safety for aircraft in the area, the proposed facility provides a critical service for NPS visitors and staff, making use of transponder equipped aircraft.
- Sites Outside the Park: Five of the eight proposed "build" sites are not located within DVNP. However, Galena Peak Option is located in DVNP. Moderate impact.

Evaluation - California Desert Conservation Area Plan:

- Designated Areas: All eight proposed "build" sites have been carefully located in "pockets" and "fingers" of non-wilderness land. Minor impact to priority wilderness areas.

Evaluation - BLM Visual Resource Management program:

- Low Level of Change: The location of this site up in the hills is largely concealed from view from the valley floor. Colors, reflectivity and textures of materials will be selected to match the existing setting. The proposed Microwave Repeater facility will present a low level of change to the characteristic landscape.
- Not Attract Attention of Casual Observer: This site has low visibility from the valley floor. Coupled with the concept of selecting materials compatible with the setting , the proposed facility will not attract the attention of the casual observer.
- Repeat Basic Elements: The angular nature of the tower structure repeats the angular forms found in the surrounding mountains and desert. Color, texture and reflectivity of materials have been selected to repeat the natural surroundings. Minor impact due distance from road.

Recommended Colors, Textures & Finishes

- Color: Brown/tan camouflage pattern to match mountains color and texture as viewed from road.
- Texture: Medium texture to match view from road.
- Finishes: Flat, non-reflective, non-glare.

See ***Exhibit 12: Photo Montage – Microwave Repeater Site Option – Galena Peak - NPS***.

Exhibit 12
Site Photo/Photo Montage – Microwave Repeater Site Option
Galena Peak – NPS
View from Saline Valley Road

Section - CONCLUSIONS

Conclusions

This section consists of an assessment of the final project impact for each proposed build site based upon the applicable Visual Assessment criteria from the *Death Valley National Park Management Plan*, the *California Desert Conservation Plan* and the BLM Visual Resources Management program.

The Visual Impacts Evaluation Summary below tabulates the conclusions of the preceding Visual Resource Assessment section. In each case, the rating shown has considered the Existing Conditions criteria shown for each alternative site, including Location, Land Ownership, Distance to Designated Wilderness, Distance from Saline Valley Road, Setting and Potential for Visual Absorption.

Visual Impacts Evaluation Summary

Criteria	Beacon Radar Alternatives						Microwave Repeater Alternatives			
	A	B	C	D	E	F	LC South	LC North	GP	No-Build
DVNP Management Plan										
Visual Quality of Scenery	Minor	Moderate	Minor	Minor	Moderate	None	Moderate	Moderate	Minor	None
Critical Service	Minor	Minor	Minor	Minor	Minor	None	Minor	Minor	Minor	None
Sites Outside Park	Moderate	Minor	Minor	Minor	Minor	None	Minor	Moderate	Moderate	None
CDCAP Multiple Use Class L										
Designated Areas	Minor	Minor	Minor	Minor	Minor	None	Minor	Minor	Minor	None
BLM Visual Resource Management										
Low Level of Change	Minor	Moderate	Minor	Minor	Moderate	None	Moderate	Moderate	Minor	None
Not Attract Casual Attention	Minor	Moderate	Minor	Minor	Moderate	None	Moderate	Moderate	Minor	None
Repeat Basic Elements	Minor	Moderate	Minor	Minor	Moderate	None	Moderate	Moderate	Moderate	None
Summary	**Minor**	**Moderate**	**Minor**	**Minor**	**Moderate**	**None**	**Moderate**	**Moderate**	**Minor**	**None**

Evaluation Ratings Legend
Major: Significant impact to visual resources.
~~Moderate~~: Some impact to visual resources.
Minor: Little impact to visual resources.
~~None~~: No impact to visual resources.

Conclusions Summary

Locating the Beacon Radar facility at alternative sites A, C and D would have minor impacts on visual resources, while locating the Beacon Radar facility at alternative sites B and E would have moderate impacts.

Locating the Microwave Repeater facility at Site Option Galena Peak would have minor impacts on visual resources, while locating the Microwave Repeater facility at Site Options Lead Canyon South and Lead Canyon North would have moderate impacts.

Camouflage patterns to match colors and textures found in the existing landscape, along with flat non-reflective non-glare finishes, have been selected to repeat the natural surroundings and to minimize visual impacts.

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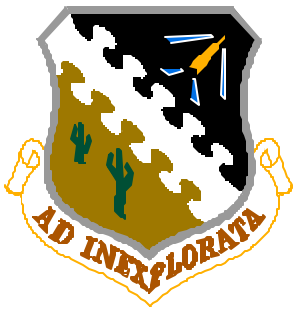

VISUAL RESOURCES IMPACT ANALYSIS FOR THE GALENA RIDGE REPEATER FACILITY VISUAL RESOURCES IMPACT ANALYSIS

July 2003

AIR FORCE FLIGHT TEST CENTER
ENVIRONMENTAL MANAGEMENT
EDWARDS AFB CA 93524

Executive Summary

This supplemental environmental study was conducted as a part of the evaluation of the proposal by the Air Force Flight Test Center at Edwards Air Force Base to improve radar coverage in the Saline Valley in Inyo County, California. This project will entail construction of a beacon radar facility on Bureau of Land Management land on the floor of the valley, and of a microwave repeater at the 6,300 foot elevation level on Galena Ridge above the valley's western edge. The site proposed for the microwave repeater is located on land that falls within Death Valley National Park. The Park Superintendent has formally registered his concern that the repeater could intrude on views from areas of the park in the Saline Valley and on park roads and wilderness areas in the repeater's vicinity. This supplemental analysis was undertaken to provide a focused assessment of the repeater's potential visibility from these areas, and an identification of measures that can be undertaken to attenuate the project's visual effects.

The approach taken in conducting this analysis involved use of Geographic Information System (GIS) data and technology to create maps identifying the areas from which the project would be potentially visible, and in-field observation and photo documentation of views of a full-sized mock-up of the facility as seen from viewpoints along Saline Valley Road on the valley floor, and from areas on the top of the ridge in the vicinity of the repeater station site. Figures 1 and 2 are maps produced by the GIS analysis, and Figures 3-10 are photos documenting the field observations.

Based on the analyses documented in this report, it was found that:

- The repeater station will have virtually no detectable effects on views from Saline Valley. By moving the repeater station site to a location set back from the edge of the ridge, it was possible to eliminate views of it from the portions of Saline Valley Road in closest proximity (approximately 2.7 miles) to it. The closest valley area from which the repeater is potentially visible lies 4.8 miles from the proposed repeater site. From this area, the repeater appears as a small speck on top of the ridge (Figure 7), does not attract attention, and is not distinguishable as a man-made structure.

- The repeater will be visible in the area immediately surrounding it at the terminus of an old mining road on Galena Ridge (Figures 8, 9, and 10). However, because of the facility's small size (it is only 20 feet tall); light, lattice steel construction; and neutral color, its degree of visual impact on this area, which already has a disturbed appearance, will be minor. Because of the difficulty in accessing this area, the numbers of people who will experience this slightly altered view will be small.

- The repeater station will also be visible from a short portion of a trail that crosses over the ridge in an area about a mile to the northeast. At this distance, the repeater facility would not be visually prominent in views from the trail, and would have little discernable effect on the overall character and quality of views from the trail corridor.

The siting and design currently proposed for the repeater station incorporates a number of measures that have the effect of minimizing its visual effects. One of the outcomes of this

analysis is that the location of the facility on the ridge has been adjusted to move the site further back on the ridge, eliminating most views of the facility from valley areas in the foreground and middleground viewing areas. The lattice steel structure proposed for the facility has the advantage in both close and more distant views of appearing less massive than a steel pole tower, and of being visually absorbed into the backdrop. Under normal circumstances, the facility will not be illuminated at night - the only lights are those that would be used in an emergency situation. The neutral gray color used for the mock-up appears to be the color that will be most effective in integrating the facility into its setting. Although additional measures to camouflage the appearance of the repeater in nearby views do not appear to be feasible or appropriate, there are a number of things that can be done to either further attenuate its visual effects or make it a positive point of visual interest to visitors to the top of the ridge. These include:

- Using a dark color with low reflectivity for the fence around the facility to reduce its visual intrusiveness;

- After construction, cleaning up all construction debris and restoring all ground surfaces disturbed during construction; and

- Installing low profile and attractively designed interpretive panels around the perimeter of the facility's fence to explain to visitors what the facility is, and why it is there.

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1.0 Background

In October 2002, The Air Force Flight Test Center at Edwards Air Force Base prepared an Environmental Assessment (EA) evaluating the potential environmental impacts of a beacon radar facility and an associated microwave repeater proposed for development in the Saline Valley in Inyo County, California. The recommended alternative consisted of a beacon radar facility to be sited on the valley floor at a location just to the west of Saline Valley Road at the mouth of McElvoy Canyon, and a radar repeater tower to be located at the 6,300 foot elevation level on Galena Ridge above the western edge of the valley. The locations of these facilities are indicated on Figure 1. The site of the proposed beacon radar facility is located on lands administered by the U.S. Bureau of Land Management, while the site of the proposed microwave repeater station is located on land that is a part of Death Valley National Park. In a letter dated April 21, 2003, James T. Reynolds, the Superintendent of Death Valley National Park expressed his concerns that the microwave repeater station proposed for development on park lands may have the potential to intrude on views from the Saline Valley Road, from the Galena Peak area road, and from Park wilderness areas. This supplemental analysis was undertaken to provide a focused assessment of the potential visibility and visual impacts of the Galena Ridge microwave repeater facility and to identify measures that can be employed to attenuate the project's visual effects.

2.0 Project Description

The microwave repeater facility proposed for the Galena Ridge site will consist of a 3-sided lattice steel tower, approximately 6 feet along each side at its base, and 20 feet in height. The tower will support two microwave dishes, a small (10 square feet) solar panel, and a small-enclosed box containing electronic equipment and a storage battery. The facility will be located on a 12- by 12-foot plot that will be surrounded by an 8-foot-high perimeter fence with an entry gate. The only lighting will be security lighting designed to be activated in the case of a multi-level disturbance.

3.0 Existing Conditions

The Saline Valley is an isolated valley located to the west of Death Valley and is separated from it by the Panamint and Last Chance ranges. On the north, the valley is defined by the Saline Range, and on the west, by the high, steep-sided Inyo Mountains. The valley is approximately 24 miles long, and is about 9 miles wide at its widest point. Because vegetation is sparse, consisting for the most part of low-growing grasses and shrubs, the landscape has a stark appearance. Figures 5, 6, and 7, views from Saline Valley Road (on the valley floor toward the ridges that frame the valley on the west) provide a sense of the valley landscape's appearance. In general, the levels of landscape visual quality are high, reflecting the dramatic relief, long vistas, and generally natural appearing character. Although the valley is generally natural appearing, it is not pristine in that the network of roads and scattered vestiges of past mining activity create areas where human alterations of the landscape are evident. These alterations date from the period when the Bureau of Land Management, which permitted mining and other activities, administered the Saline Valley. It was only in 1994, under the provisions of the Desert Protection Act that Saline Valley was incorporated into Death Valley National Park.

The site proposed for the repeater station is on a small plateau at the 6,300 foot elevation level on the eastern edge of Galena Ridge in the Nelson Range, about a mile and a half north of Galena Peak. The site is at the terminus of a rough, four-wheel-drive mining road known as the Galena Peak Road that travels up the ridge from the west. Although the surrounding area is included in a designated National Park Wilderness area, the road, and a corridor extending out a short distance on each side of it are not included in the Wilderness. The repeater station would be sited in a non-wilderness "cherry stem" area at the road's terminus. The existing visual quality of the repeater site area is mixed. Although the area provides spectacular panoramic views of the Saline Valley and distant ridges to the east, the immediate foreground of the view has a disturbed appearance because of the presence of the mining road and an area of rock piles and compacted soil at the road's terminus. Figures 8, 9, and 10 provide a sense of this area's appearance.

Since the time Saline Valley was incorporated into the National Park, no significant measures have been taken to improve access into the area or to develop visitor facilities. Because of the poor accessibility and limited developed attractions and facilities, the numbers of people who visit Saline Valley are a small fraction of those who visit Death Valley itself. While Death Valley National Park as a whole attracts 800,000 to one million visitors a year, the numbers who visit Saline Valley are very small. The most important node of activity in the valley is at the hot springs located to the northeast of the Saline Valley Sand Dunes, where there are informal camping facilities. Data from the camping logs at these camp grounds indicates that these facilities attract a total of about 9,000 visitors per year, primarily in the period from November through April. The numbers of people who visit the area on Galena Ridge where the microwave repeater station is proposed is assumed to be very low, consisting primarily of drivers and passengers in four-wheel-drive vehicles that are able to travel up the rough mining road to the top of the ridge. In addition to these visitors, small numbers of hikers use a trail that crosses over the Nelson Range in the area about a mile to the northwest of the repeater station site.

4.0 Analysis Procedure

To assess the proposed repeater station's potential effects on views from the Saline Valley and from nearby areas on Galena Ridge, an analysis was conducted that entailed use of Geographic Information System (GIS) data and technology to create maps of the area from which the project would be visible, and in-field observation and photo documentation of views of a full-sized mock up of the facility as seen from viewpoints along Saline Valley Road on the valley floor and from areas on top of the ridge in the immediate vicinity of the repeater station site.

Figures 1 and 2 are maps that were produced by the GIS analysis that depict the location of the microwave repeater facility and the areas from which there would be potential for unobstructed views of it. These maps represents the potential visibility of the repeater station at an adjusted site location that was selected during the course of the in-field observation exercise described below. The concentric circles drawn around the facility indicate zones of varying degrees of visibility based on the visibility zones the U.S. Forest Service and the Bureau of Land Management have defined in their systems for inventorying landscape resources and assessing visual impacts (US Bureau of Land Management 2002, US Forest Service 1995). The half-mile circle delineates the zone that the US Forest Service considers to be the foreground zone, the zone in which there is the potential for the maximum discernment of detail, scale, and color. The

three and five mile circles define the outer limits of the middleground zone, the zone in which detail is less visible, but in which rock outcrops, large boulders, and individual tree forms are still visible, and form, texture, and pattern remain important. The Forest Service defines the outer limit of the middleground zone as four miles, while the Bureau of Land Management considers the outer limit of the middleground zone to occur someplace in the area between three and five miles. The area beyond five miles is considered to be the background zone, the zone in which texture has disappeared and color has flattened, but at which large patterns of vegetation and rock are still discernable, and ridgelines and horizon lines are the dominant visual characteristic. The 15 mile circle represents the outer limit of the background distance zone, reflecting the assumption of the BLM visual resource management system that the background zone extends 15 miles, at most, and that beyond this distance, only landscape form or outline are visible. Figure 1 presents the potential visibility of the repeater station in the larger region. Because the ridges to the south of the site will screen views of the repeater from that direction, Figure 1 encompasses the areas to the north and east, where there is potential for unobstructed views. Figure 2 is a map that focuses in on the areas in the repeater station's foreground and middleground viewing zones, and includes the locations of the viewpoints of the photos used to support the analysis.

To prepare for the in-field observation exercise, a full-scale mock-up of the repeater station tower and dishes was created using wood and cardboard, and the entire structure was painted with gray paint to simulate the facility's likely color. The in-field observation exercise took place on Monday, June 16, 2003. On that day, one party drove to the top of Galena Ridge to place the mock-up at the simulator's proposed site and to document its visibility from nearby areas. A second party drove into the Saline Valley, and guided by the results of a GIS analysis indicating the likely visibility of the repeater station at the original location for which it had been proposed, made systematic observations of the facility as seen from viewpoints along Saline Valley Road. Figure 3 is a view of the repeater station mock-up being installed at the top of Galena Ridge. Figure 4 is a view of the team on the valley floor, which communicated with the crew at the Galena Ridge site by means of two-way radio and signal mirrors to ascertain the status of the repeater mock-up its location. The crew on the valley floor made observations and took photographs of the view toward the repeater station site from a series of viewpoints along Saline Valley Road located at distances ranging from 2.7 to 4.8 miles from the repeater station site. Those on the top of the ridge observed and took photos of the repeater station mock-up as seen from a series of locations in the nearby area.

When the mock-up of the repeater station was originally set up on the ridge top, it was placed at the edge of the ridge. Based on radioed instructions from the valley crew, the ridge crew later moved the mock-up to the west, away from the edge of the ridge, into an area where it was no longer visible from the portions of Saline Valley Road closest to the site. This adjusted location has now become the proposed location for this facility, and is the site whose potential visibility is depicted on Figures 1 and 2.

5.0 Results

Figure 5 is a view toward the repeater station site from Viewpoint 1, a point along Saline Valley road located approximately 0.5 miles south of the intersection of Ubehebe Road and approximately 2.7 miles from the repeater station's location. Figure 6 is a view toward the

repeater station site from Viewpoint 2, a point along Saline Valley Road at the intersection of Ubehebe Road and 3.2 miles from the repeater's location. Both of these photographs illustrate and help to verify the analysis presented in Figures 1 and 2, which indicates that at its revised location, the repeater station will not be visible within most of the foreground and middleground zones in views from Saline Valley Road. The only exception to this generalization is that the facility will be visible from a small area of the road that lies about 1.7 miles north of the intersection of Ubehebe Road, approximately 4.8 miles from the repeater station site. Figure 7 is a view toward the repeater site from Viewpoint 3, which is located in this area. In this view, the repeater station is visible, but appears only as a small speck on the top of the distant ridge. In Figure 7, an arrow is used to direct the viewer's attention to the facility's location. When seen with the naked eye, the repeater does not attract attention, and appears to be a part of the natural landscape pattern. Even when viewed with binoculars, the facility cannot be identified as a man-made structure, and cannot be distinguished from the nearby Joshua trees.

As indicated on Figures 1 and 2, to a very large degree, the repeater station will not be visible from the surrounding ridge area. The nearby areas of visibility will consist primarily of a small zone surrounding the repeater on the plateau area where it will be located, and another zone on an area of the ridge approximately one half mile to one mile to the south, west, and northwest. Figure 8 is a view of the repeater station mockup from Viewpoint 4, the point at which the Galena Peak Road crosses over the top of the ridge and the repeater site first comes into view. This viewpoint is located approximately 525 feet from the repeater site. Figure 9 is a view of the mockup from Viewpoint 5, located on the Galena Peak Road about 328 feet from the repeater site, and Figure 10 is a view of the mockup from Viewpoint 6, located about 55 feet from the repeater site. As these photos of the mockup suggest, in these views from the immediately surrounding area, the repeater station will be clearly visible, but because of its small size, light structural members, and neutral, recessive color, will not dominate the view.

6.0 Findings/Recommendations

6.1 Impacts

Based on the analyses documented in this report, the following findings can be made about the aesthetic impacts likely to be associated with the microwave repeater station proposed for Galena Ridge:

The repeater station will have virtually no detectable impact on views from Saline Valley. For the most part, the repeater station will not be visible at all from the portions of the valley that fall within the facility's foreground and middleground distance zones. The only exception is an area along Saline Valley Road that lies between 4.7 and 5.0 miles from the repeater site. As documented by Figure 7, although the repeater will be visible from this area as a speck on top of the distant ridgeline, it will not be readily discernable as a built feature, and will have virtually no effect on the character and quality of the view. From areas of the valley that lie further away from the repeater site, the facility's degree of detectability will be even less, and there is unlikely to be any degree of discernable impact on the character and quality of views. The most heavily used area in the valley, the hot springs northeast of the Saline Valley Sand Dunes, lies over 16 miles from the repeater site, and from this area, because of the great distance entailed, the

repeater would not be discernable, and would have no effect on the visual experience of users in this area.

The repeater facility will have some minor but limited impacts on views at and immediately surrounding the proposed site on Galena Ridge. As suggested by Figures 8, 9, and 10, the repeater will be visible in the immediate area around the end of the Galena Peak mining road. Because of the facility's small size; light, lattice steel construction, and neutral color, its visual impact on this area will be limited. Because the area at and around the site already reflects a degree of human modification, the repeater facility will not represent an intrusion into an otherwise pristine landscape setting. Although the facility will create a small change in the visual character and quality of the area in the immediate vicinity of the site, these changes will be minor and very limited in terms of the extent of the area affected. Because of the difficulty of accessing this area, the numbers of people who will see these views will be very limited. As indicated by the visible area mapping presented on Figures 1 and 2, the repeater station will also be visible from a short portion of the trail located about a mile to the northeast. At this distance, and given the repeater facility's small size, and its lattice construction that will maximize its visual absorption into the backdrop, the repeater facility is not likely to be visually prominent in views from the trail, and would have little discernable effect on the overall character and quality of views from the trail corridor.

6.2 Recommendations for Mitigation

The currently proposed siting and design of the repeater station incorporates a number of measures that have the effect of attenuating its visual effects:

- With the adjustment of the facility's precise location on the ridge, the facility's visibility from the valley has been greatly reduced, eliminating most views of the facility from valley areas in the foreground and middleground viewing zones.
- The lattice steel structure proposed for the facility has the advantage in close and more distant views of appearing less massive than a steel pole tower, and of being visually absorbed into the backdrop.
- The only lighting proposed for the facility is emergency lighting that would turn on only in the case of a multi-level disturbance. Under normal circumstances, the facility will not be illuminated at night.

The neutral gray color used for the mock-up appears to be the color that will be most effective in integrating the repeater into its setting. As review of Figures 8, 9, and 10 indicate, the gray color has a low level of visual contrast with both land and sky backdrops and is in harmony with the color of the soil in the immediately surrounding area. Although consideration has been given to use of other color schemes that might be thought to camouflage the repeater (i.e., combinations of green and tan), it was determined that given the form, small surfaces, and small scale of the facility, that these colors would be less effective than gray in integrating the repeater

into the various views in which it is seen, and in close views, could attract more attention to the repeater than use of a single neutral color[1].

Additional measures to camouflage the appearance of the repeater in nearby views do not appear to be feasible or appropriate. The facility's design is already small scale and compact. Given the nature of the facility's form, efforts to disguise the repeater as a Joshua tree would be awkward-appearing and unconvincing, and would call additional attention to the facility. Planting a grove of Joshua trees around the repeater in order to screen it would not be feasible because the trees could interfere with the clear line of sight to the dishes that must be maintained, and because of the practical difficulties in irrigating and maintaining new plantings in this remote and difficult-to-access location. Any architectural treatment to the facility would have the effect of increasing its apparent bulk and degree of contrast with its backdrop.

Although there do not appear to be any feasible options for camouflage treatment of the repeater, there are a number of additional measures that will either further attenuate its visual effects or make it a positive point of visual interest for visitors to the top of the ridge:

- The fence surrounding the repeater station should be painted a dark color with a low reflectivity finish to minimize its visual intrusiveness.
- After construction is complete, all construction debris should be removed from the area, and the surfaces of any areas disturbed during the construction process should be restored to their original condition.
- Low profile and attractively designed interpretive panels should be installed around the perimeter of the repeater facility's fence to explain to visitors what the facility is, and why it is there. Points that the panels could cover might include a description of the repeater station and its relationship to the beacon radar facility, the role of the radar system in improving safety for flight operations in the R-2508 complex, the history of flight operations in this area, the fact that the 1994 Desert Protection Act included provisions maintaining the military use of air space over lands in Death Valley National Park, and profiles of planes commonly seen in the area to help visitors to identify them.

7.0 References

Goulty, G. A. 1990. *Visual Amenity Aspects of High Voltage Transmission*. Taunton, Somerset, England: Research Studies Press, Ltd.

United States Department of Agriculture. Forest Service. 1995. *Landscape Aesthetics; A Handbook for Scenery Management* (Agriculture Handbook Number 701). Washington, DC: US Department of Agriculture.

United States Department of the Interior. Bureau of Land Management. 2002. *Visual Management System, Manual H-8410-1*. Available at: http://www.blm.gov/nstc/VRM/8410.html. Accessed September 24, 2002.

[1] This determination is consistent with experience in the electric utility industry, which has found through studies and experience that neutral gray colors perform the best in visually integrating electric transmission lines into the landscape. See for example, Goulty (1990) pp 110-120

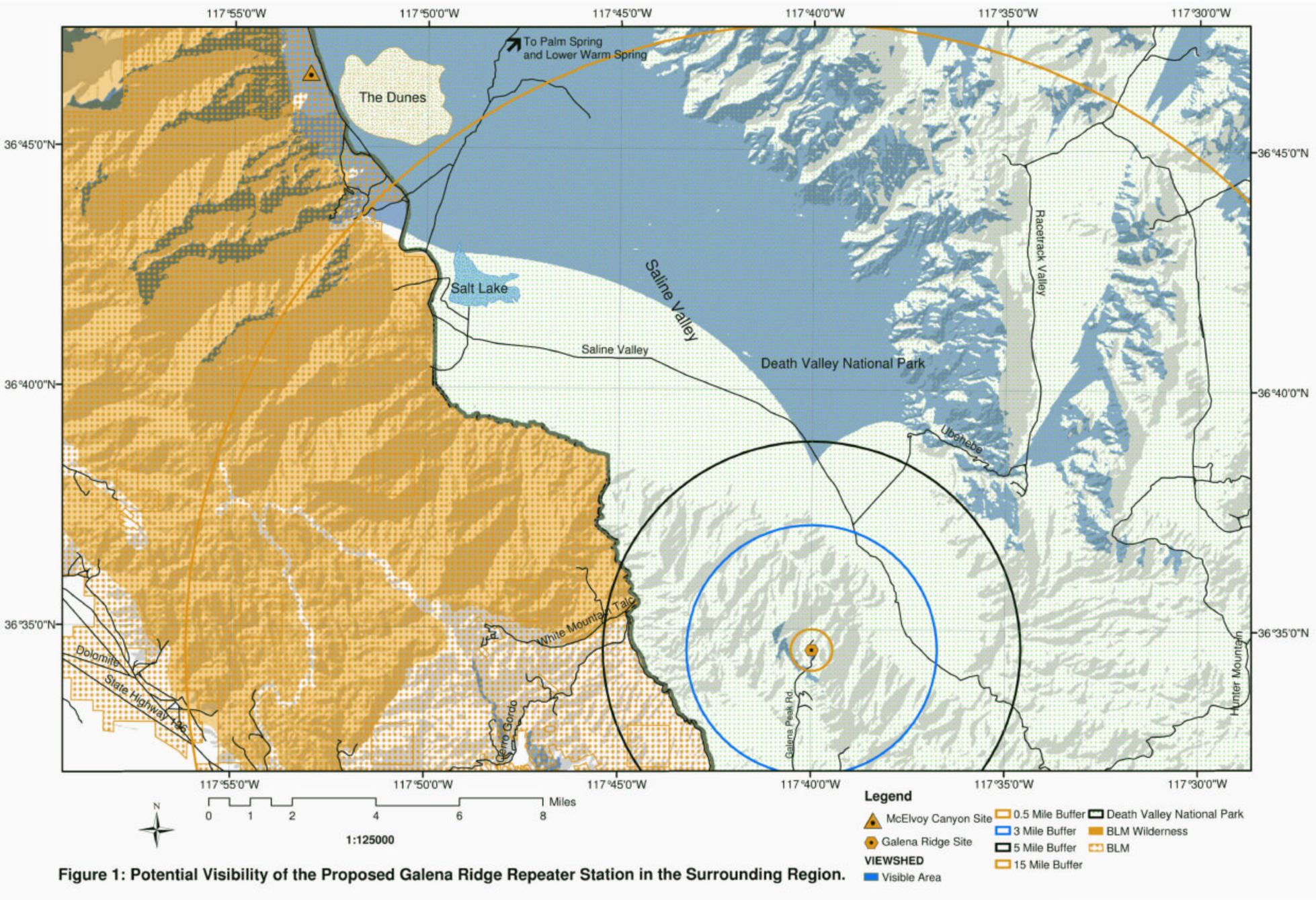

Figure 1: Potential Visibility of the Proposed Galena Ridge Repeater Station in the Surrounding Region.

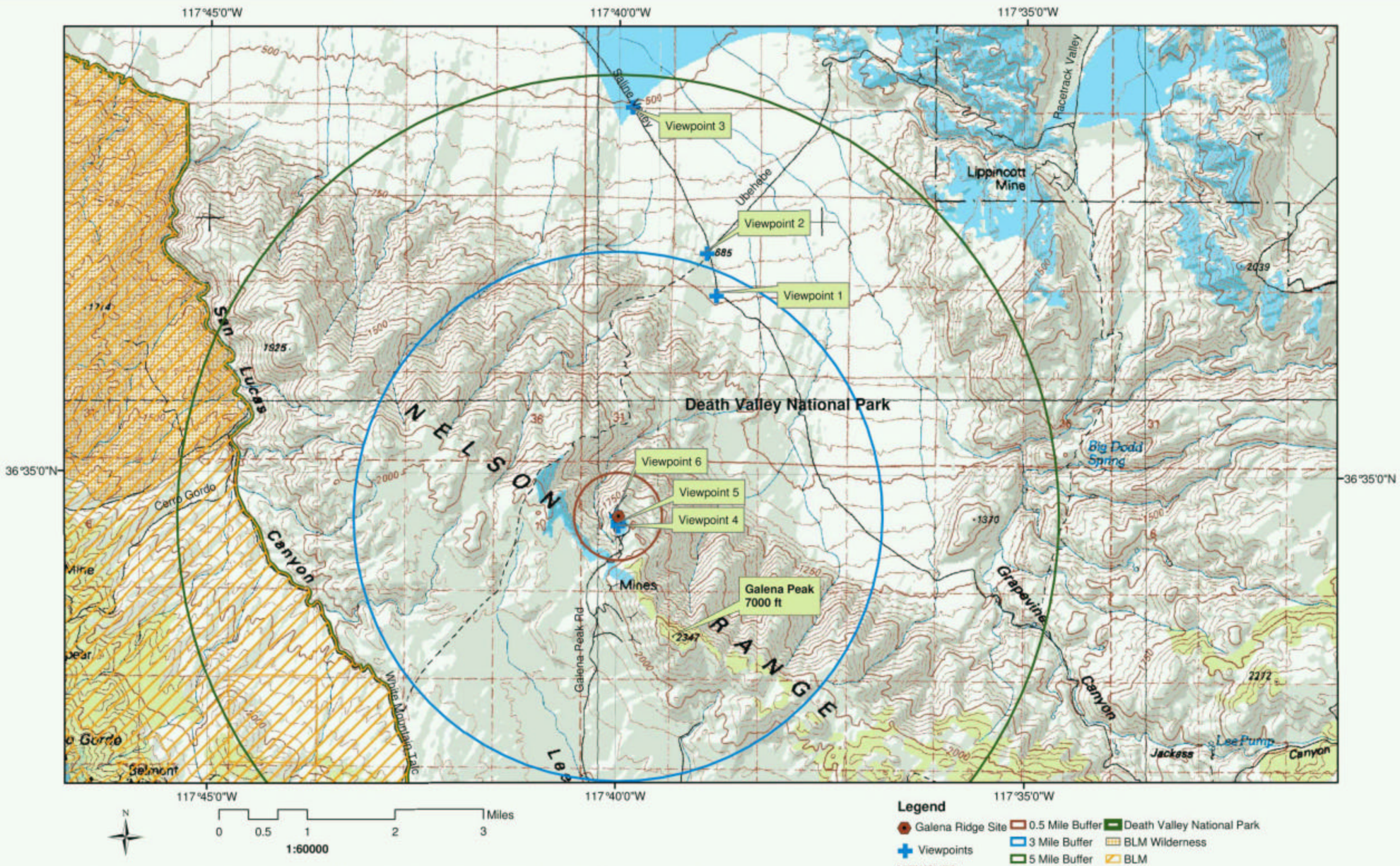

Figure 2: Foreground and Middleground Viewing Areas with Identification of Viewpoints

Figure 3: Installation of the repeater station mock-up at the Galena Ridge site.

Figure 4: Crew on valley floor observing placement of repeater station.

Figure 5: Viewpoint 1 - The arrow marks the general location of the repeater site, which is 2.7 miles from this viewpoint. With the location the repeater moved back from the edge of the ridge, the repeater is not visible from this area of Saline Valley Road.

Figure 6: Viewpoint 2 - The arrow marks the general location of the repeater site, which is 3.2 miles from this viewpoint. With the location of the repeater moved back from the edge of the ridge, the repeater is not visible from this area of Saline Valley Road.

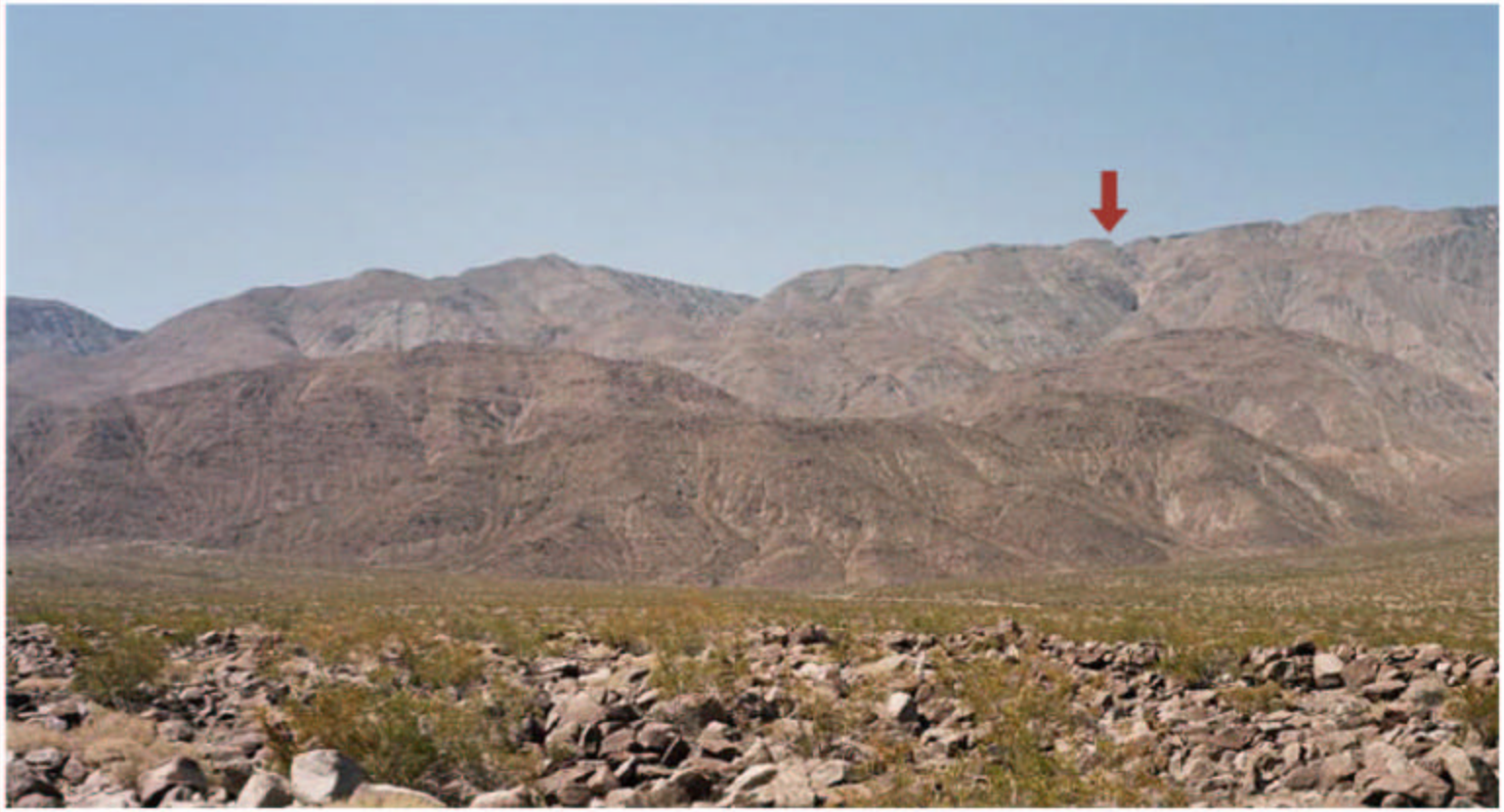

Figure 7: Viewpoint 3 - From this location, which is the point along Saline Valley Road that the repeater will be visible at closest range, (4.8 miles in the distance) the repeater station (highlighted with an arrow) will be visible as a small speck on top of the ridge.

Figure 8: Viewpoint 4 - View of the repeater mock-up from a point on the Galena Peak mining road approximately 525 feet from the site.

Figure 9: Viewpoint 5 - View of the repeater mock-up from a point on the Galena Peak mining road approximately 328 feet from the site.

Figure 10: Viewpoint 6 - Very close-up range view of the repeater mock-up from a point about 50 feet to the west.

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